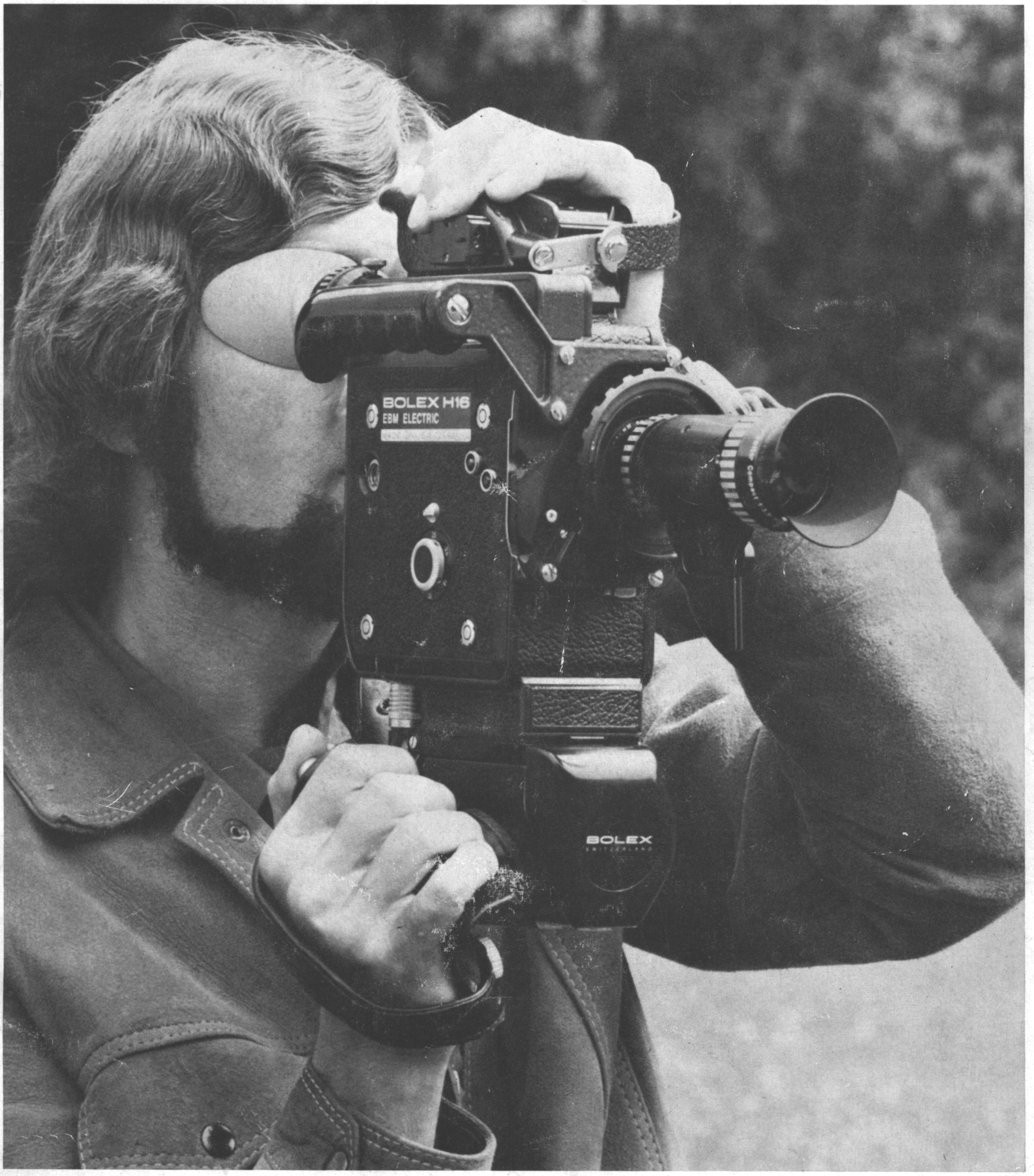
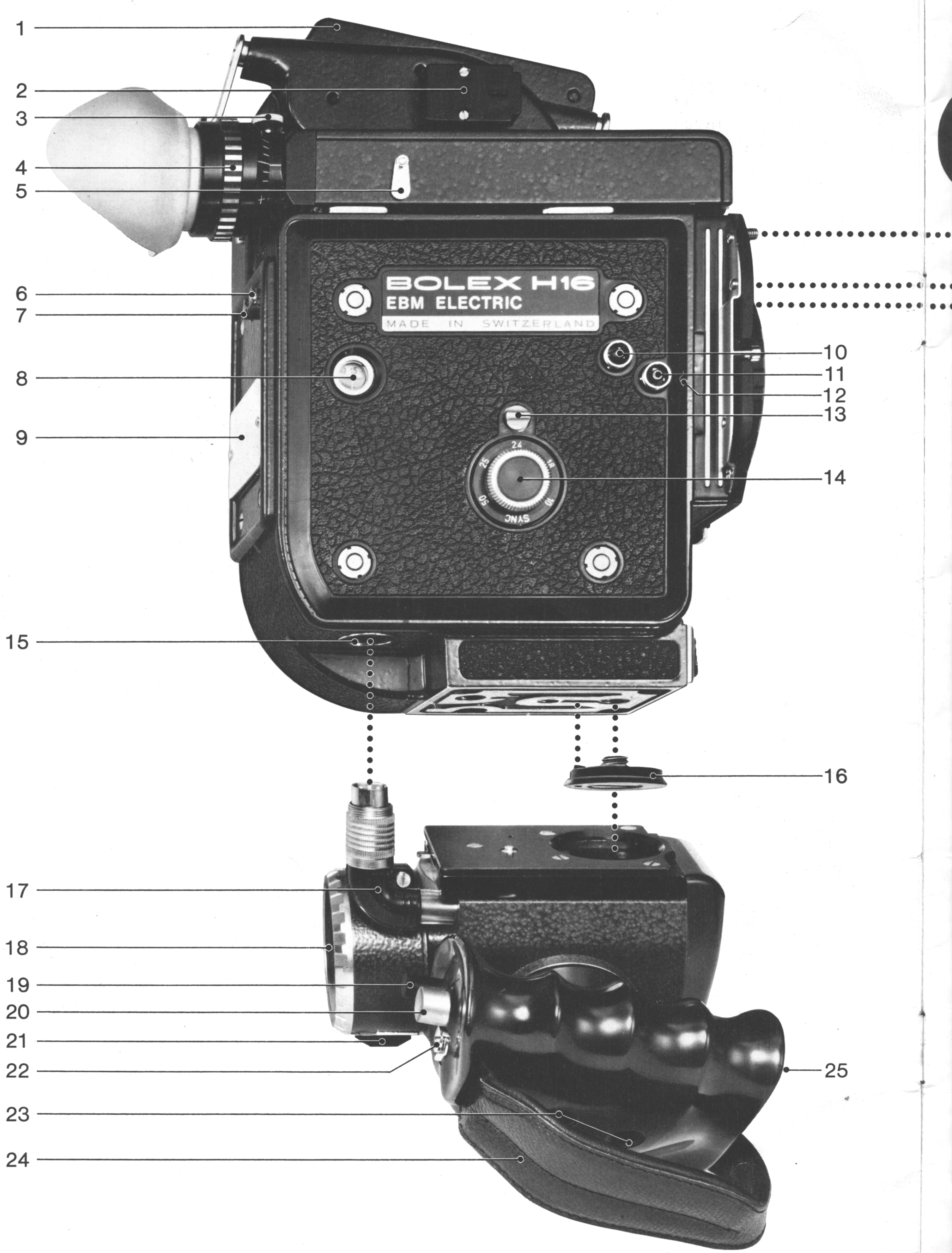
BOLEX

H 16 EBM ELECTRIC

Instructions manual


BOLEX H16
EBM ELECTRIC
BOLEX
SWITZERLAND


1
2
3
4
5
6
7
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9
BOLEX H16
EBM ELECTRIC
MADE IN SWITZERLAND
10
11
12
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10
SYNC
14
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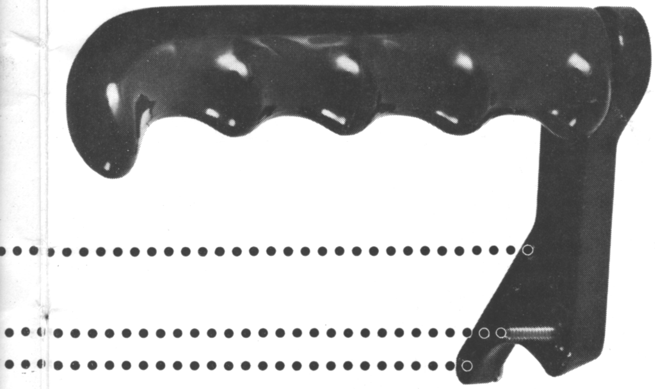


Camera

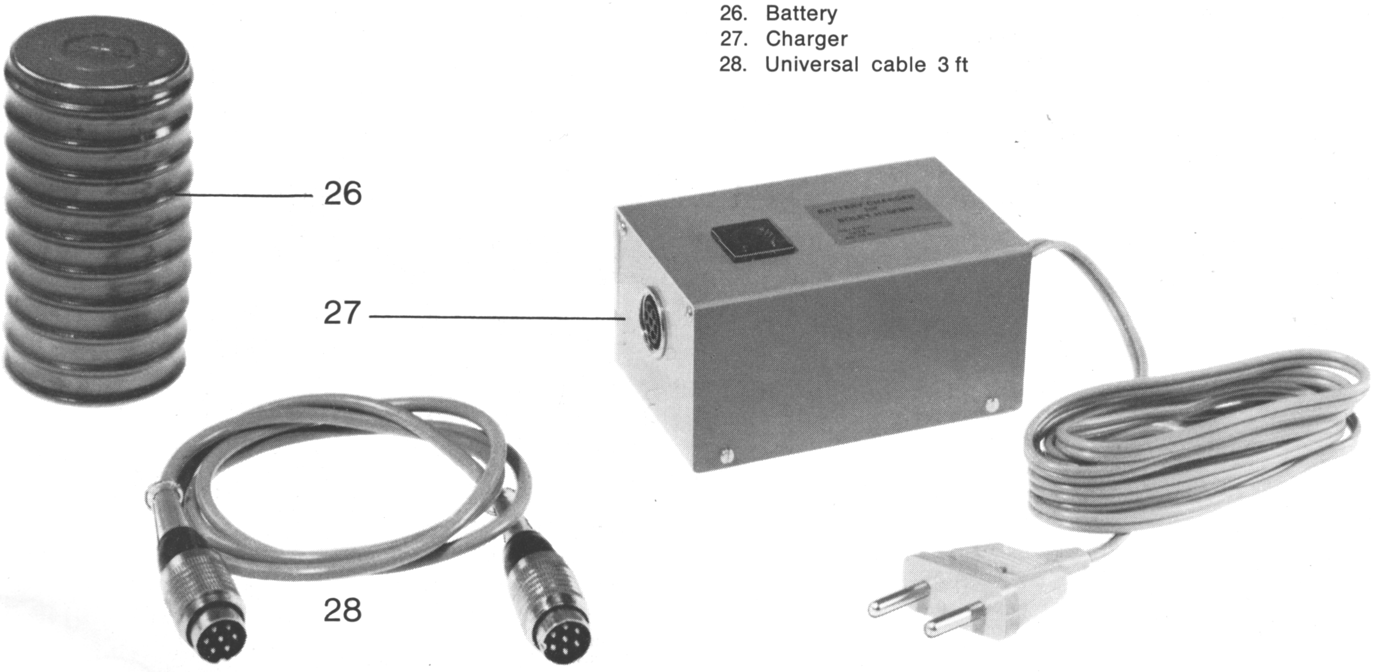
1. Support for 400 ft magazine
2. Feeding plug of 400 ft magazine motor
3. Eyepiece locking screw
4. Eyepiece setting ring
5. Reflex viewfinder closing lever
6. Clapper lamp
7. Discharge warning light
8. Footage counter (100 ft of film)
9. Memento
10. 8 : 1 spindle (8 frames per turn)
11. 1 : 1 spindle (1 frame per turn)
12. Film plane guide mark
13. Locking knob (24 and 25 f.p.s., SYNC)
14. Speed selector
15. Power plug
16. Adapter for rapid attachment

Power grip

17. Cable with connecting plug
18. Battery compartment lid
19. Push-button with diaphragm preselection cut-out for the Vario-Switar 100 POE (see page 8)
20. Release switch
21. Locking knob of lid
22. Safety device locking release
23. Grip locking screw (adjustable inclination)
24. Adjustable strap
25. Socket for connecting cable to the Vario-Switar 100 POE

Power

26. Battery
27. Charger
28. Universal cable 3 ft



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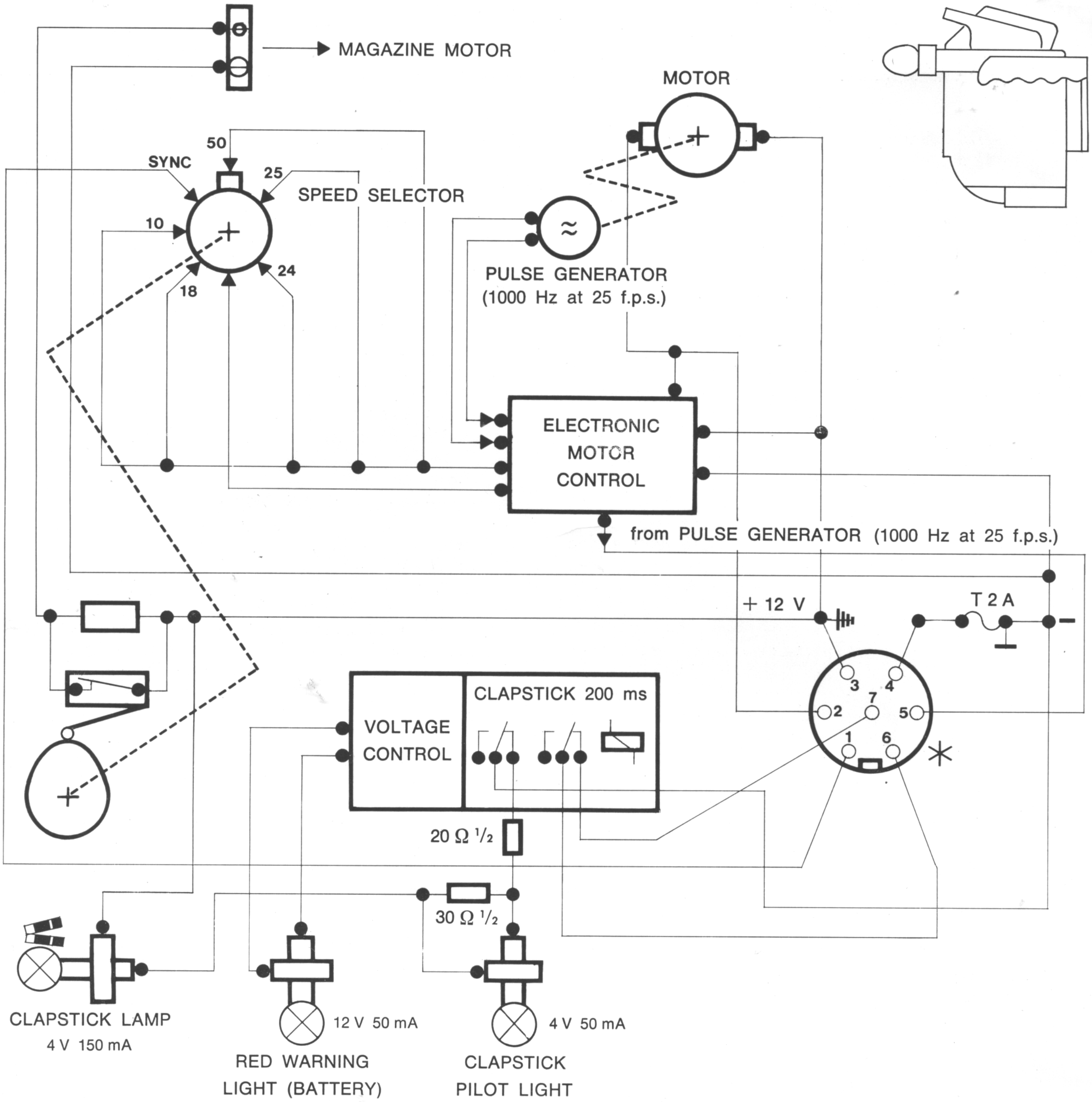
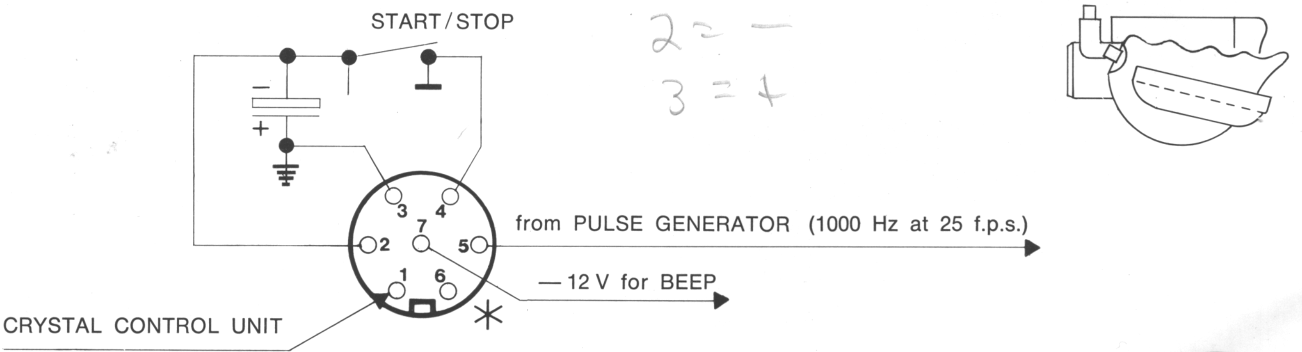
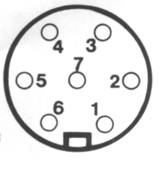

MAGAZINE MOTOR
MOTOR
SYNC
50
25
SPEED SELECTOR
10
18
24
PULSE GENERATOR
(1000 Hz at 25 f.p.s.)
ELECTRONIC
MOTOR
CONTROL
from PULSE GENERATOR (1000 Hz at 25 f.p.s.)
+ 12 V
T 2 A
−
3
4
7
2
5
1
6
VOLTAGE
CONTROL
CLAPSTICK 200 ms
20 Ω 1/2
30 Ω 1/2
CLAPSTICK LAMP
4 V 150 mA
12 V 50 mA
RED WARNING
LIGHT (BATTERY)
4 V 50 mA
CLAPSTICK
PILOT LIGHT


START / STOP
−
+
3
4
7
2
5
1
6
from PULSE GENERATOR (1000 Hz at 25 f.p.s.)
— 12 V for BEEP
CRYSTAL CONTROL UNIT

2 = −
3 = +



✳ Same socket, seen from outside
Même prise, vue de l'extérieur
Gleiche Dose, von aussen gesehen

General

The H 16 EBM Electric camera is particularly well suited to meet the requirements of professional cameramen, who will appreciate the following advantages :

electronically stabilised speeds
possibility of adapting a 400 ft magazine
possibility of synchronisation by crystal control unit
accessory sync pulse equipment
a remarkable quality and fiability.

The H 16 EBM Electric camera takes 100 ft 16 mm film spools with single or double rows of perforations, up to 400 ft spools with the 400 ft magazine accessory. Films with a single row of perforations are used when a magnetic track is to be added to the original film.

At each extremity of the film there is a leader — approximately 6 ft at the beginning and 3 ft at the end — to prevent the sensitive film being exposed to light during loading or unloading. These leaders are usually removed by the processing laboratories.

We advise against using film already fitted with a magnetic stripe. In fact, as the ferrous oxide layer is less smooth than the stripe fitted after developing, the magnetic layer can cause premature wear on the parts which come into contact with it, particularly the pressure pad, and metal particles may find their way into the camera mechanism.

After-sales service

Our international organisation tries to offer impeccable after-sales service in practically every corner of the globe. You only need to consult your Bolex distributor. In most cases, he employs qualified technicians, usually trained in our factories. By so doing, you will benefit from the original Bolex guarantee. In any correspondence, do not forget to mention the serial number engraved on the base of your camera.

Your camera is supplied with

1 feeding grip
1 battery
1 battery charger
1 universal cable (3 ft)
1 filter holder on the camera
1 set of three filter holders
4 gelatine filters
1 rewind crank
1 rubber eyepiece
1 empty spool
1 protective cap for bayonet lens mount
1 cover closing aperture for 400 ft magazine

Technical data

For single or double perforated 16 mm film.

Filming speeds : 10, 18, 24, 25, 50 f.p.s.

Stability of speeds in accordance with the standards required for the sync pulse.

With crystal control unit :
24 or 25 f.p.s., max. shifting 1 frame / 400 ft of film (about 16 000 frames).

Film running times at different filming speeds :

f.p.s.	10	18	24	25	50
3 ft	13''	7.3''	5.5''	5.25''	2.62''
100 ft	6' 34''	3' 38''	2' 44''	2' 38''	1' 19''

Power supply by means of Varta-Deac 10 x 1000 DKZ battery
Capacity : 1000 mAh
Nominal voltage : 12 V
Minimum voltage at which discharge warning light is switched on : 11 V

Consumption during normal use : max. 850 mA, at all speeds, with or without 400 ft magazine.

Fuse : T 2 A, placed under the plate of the base.

Shutter blade opening angle : 170°

Mechanism stops with shutter in any position.

Bayonet lens mount. Distance between lens seat and film plane : 26.46 mm.

Light deflected for reflex viewfinder : 25 %

Magnification of viewfinder : 14 times.

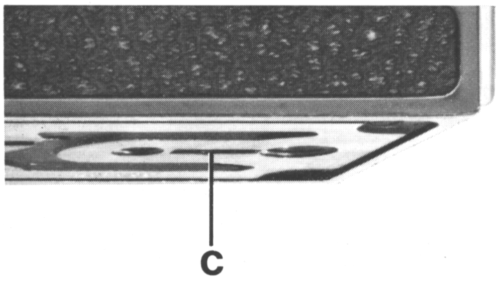
Sync pulse : generator incorporated, providing a signal of 1000 Hz at 25 f.p.s.

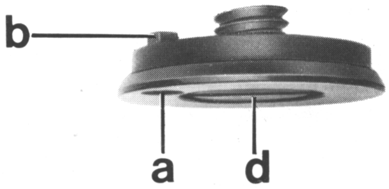
The normalised frequencies of 50 Hz at 25 f.p.s. and 60 Hz at 24 f.p.s. are obtained by means of separate accessories.

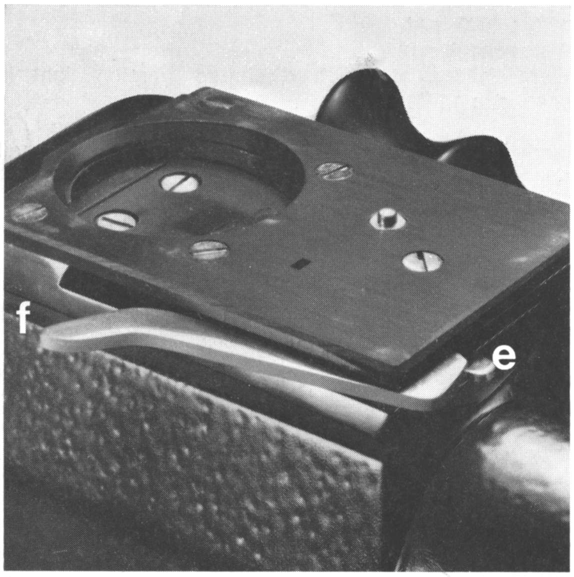
Automatic clapstick : the relay, automatically connecting clapper lamp, sync pulse and DC current for the "beep" generator of the tape recorder, is incorporated.

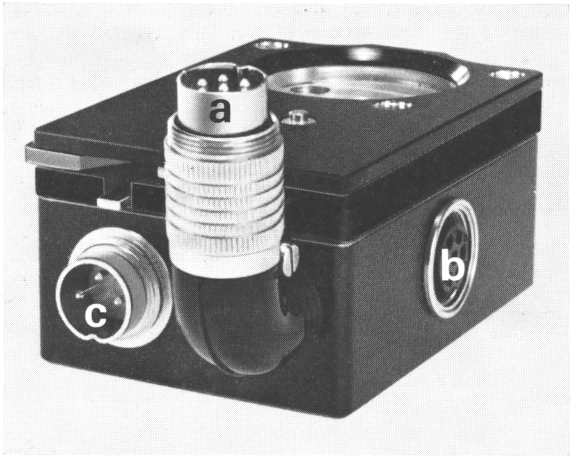
Working temperatures of camera and accessories : from —4° to +120° F.

How to prepare your camera









In order to reduce the volume of the packing, the upper handle and the feeding grip are supplied unmounted.

Mounting the upper handle

First secure the two upper screws and then the lower screw. Tighten all three screws.

Mounting the feeding grip

This grip is fitted with a rapid attachment device : an adapter previously screwed into the base of the camera, allows you to fasten the grip.

1. Fixing the adapter to the camera

To eliminate any play, proceed as follows :
Loosen screw (a).
Place pin (b) in slot (c) of the base ; secure and tighten screw (d) lightly.
Tighten screw (a).
Fully tighten screw (d).

2. Fixing the feeding grip

Having screwed the adapter to the camera, proceed as follows :
Press locking lever (e), thus freeing lever (f).
Push this lever backwards ; the fixing device is now open.
Press the grip against the base of the camera, so that the adapter falls into its seating.
Move lever (f) frontwards until locking lever (e) takes its original position by itself.
The grip is now solidly attached to your camera.

3. Connecting the cable

Connect the plug to the socket, having made sure it is correctly positioned.
Fully screw the locking ring.

4. Inclination of grip

The inclination of the grip may be adjusted as desired, by means of its two fastening screws.

5. Adjusting of strap

The length of the strap can be adapted to your hand :
Unscrew the fixing knob.
Adjust length of strap and retighten knob.

Notes :

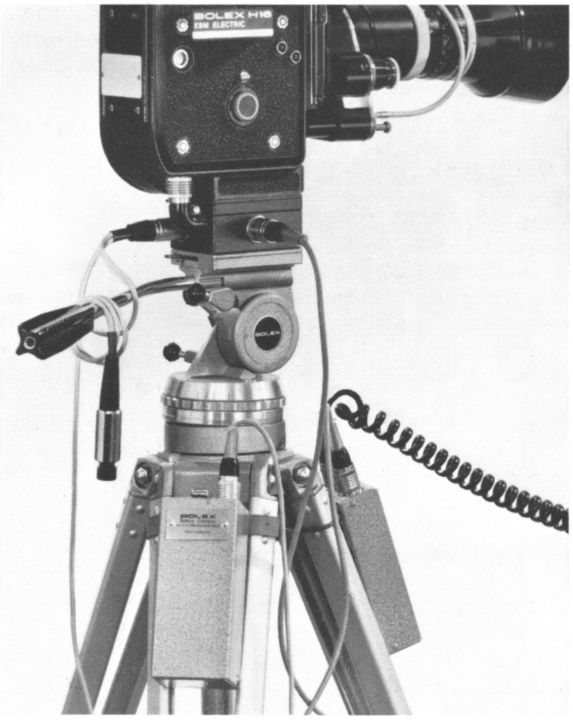
The grip, even though equipped with a rapid attachment device, is an integral part of your camera (release, battery, outlet plug). It should, therefore, not be removed, even when using a tripod or a monopod.

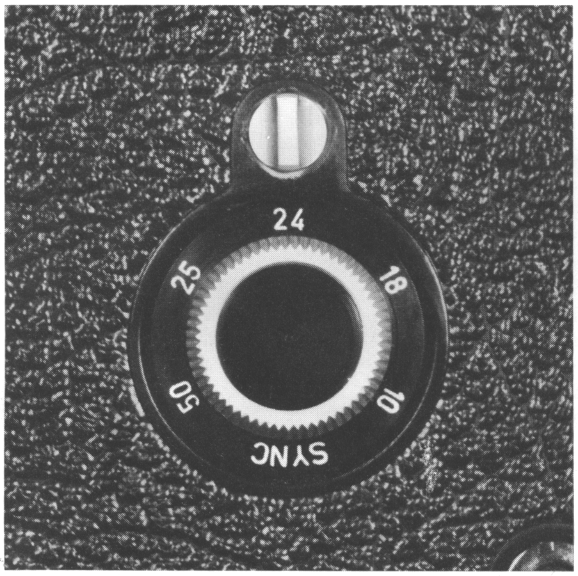
Intermediary base

When using a tripod for filming, camera steadiness can be markedly improved by removing the power hand-grip and using a rapid attachment base comprising :

a) a plug for connecting to the camera ;
b) a 7-pin socket, identical to the one on the power hand-grip, for connecting the crystal control unit and sync pulse generator ;
c) a 3-pin plug for the motor power and remote control cable.

The intermediary base can be fixed to the camera in the same way as the power grip.





When using the intermediary base, there are two methods of supplying power to the camera motor :

- by the battery located in the power grip detached from the camera and fixed for example to the tripod ;
- by means of a power pack consisting of the battery housed in a container available as an accessory (see accessories on pages 16 and 17).

In both cases, the camera must be released by means of a remote control cable which can be fixed to the tripod pan handle. This cable, available as an accessory, also connects up the battery to the camera motor.

The camera, equipped with feeding grip, can be mounted easily on to a Bolex tripod or monopod.

If you dispose of a tripod with large platform, you may need to use a special adapter, available as accessory, sufficiently high to clear the connecting plug and the grip.

Fitting the battery

To take off the lid, push the locking knob forwards and turn the lid about 120° (1/3 of a turn).

Slide the battery into its housing, **the side marked « + » outwards,** as indicated by the diagram on the lid.

To replace the lid, insert it in the correct position (3 notches at 120°), push it down and turn it until it locks.

Checking operation and charging

Adjust the speed to 24 or 25 f. p. s.

Press and immediately release the starting knob of the grip ; the mechanism runs continuously.

The same operation is necessary to stop the mechanism.

Notes :

The red warning light (at the back of the housing) flickers when the mechanism starts up, even when the battery is fully charged.

A fully charged battery allows approximately 2400 feet of filming, at the normal temperature of +70° F.

When the battery is nearly discharged, the red warning light keeps burning. About 100 ft of film may still be shot before recharging the battery.

(Recharging of battery, see page 15).

Reflex viewfinder

The reflex prism deflects into the viewfinder, an average of 25 % of the light passing through the lens. Allowance has been made for this factor in the table of exposure times on page 9, under the heading "photometric exposure times".

Adjusting the eyepiece to the operator's sight

Remove the lens.
Loosen the eyepiece locking screw.
View a well-lighted subject (sky, white wall, etc.).
Turn the milled ring of the eyepiece until the grain of the ground glass is perfectly sharp.
Tighten the locking screw.
Replace the lens.

If this adjustment is correct, a far-off subject (further than approx. 450 ft) must appear completely sharp at full aperture, distance setting ring in position (∞).

Closing the viewfinder

If the reflex viewfinder is not used during filming, close it by moving the small lever (5) into the vertical position. If it is left open, there is a risk of sunlight or artificial light from behind the camera entering the viewfinder eyepiece and fogging the film.

Optical equipment

The H 16 EBM Electric camera takes two kinds of lenses :

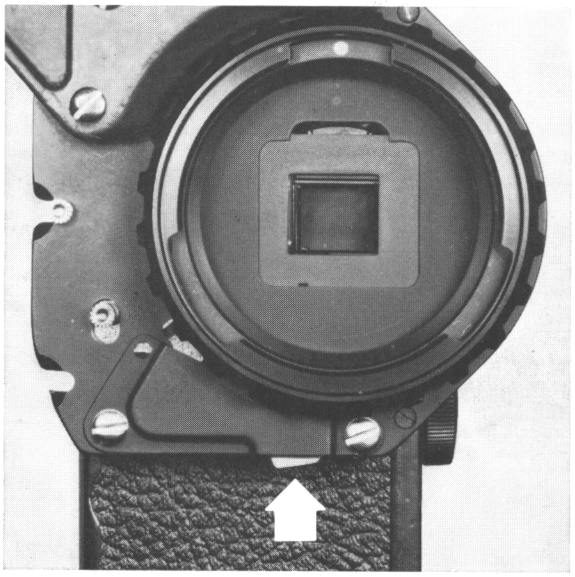
Bayonet mount lenses, Bolex system.

Centring diameter : 60 mm.
Distance between bearing plane and lens focal plane : 23.22 mm.

"C" mount lenses fitted with a special adapter
(except the Vario-Switar 86 and 100 or certain very cumbersome lenses).

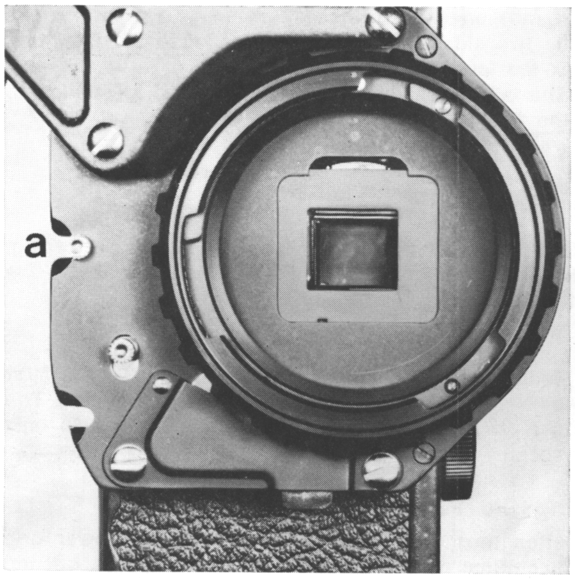
Thread diameter : 1" (25.4 mm).
Maximum thread length : 4.06 mm.
Distance between bearing plane and lens focal plane : 17.52 mm.

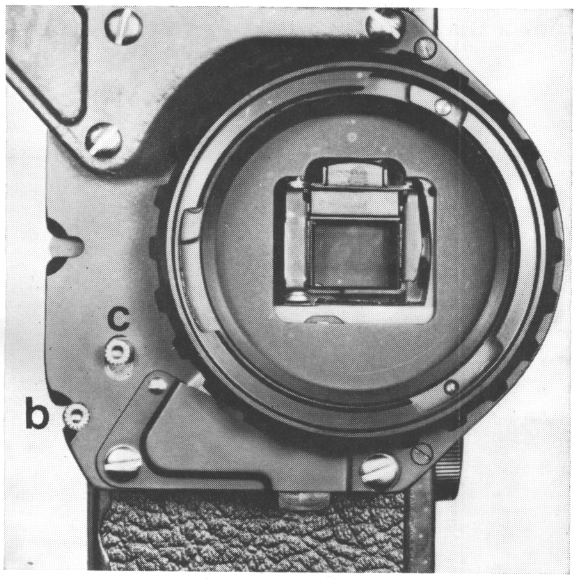
When using "C" mount lenses, the best picture quality at short focal length and with wide aperture is obtained with the lenses marked H 16 RX. These lenses are specially corrected to take into account the reflex prism of the camera.



Fitting the bayonet mount lenses

Press the locking lever and loosen the fixing ring to stop position.
Remove protective cap.
Insert the lens, with white notched tongue at the top (white dot).
Tighten the fixing ring.





Fitting "C" mount lenses

"C" mount lenses can be fitted by means of an adapter available in two versions :

without protective ring, for light lenses ;
with protective ring, protecting the bayonet from shock, intended for heavy and voluminous lenses.

The lens must be screwed into the concave side of the adapter.

Removing the lens

Loosen the fixing ring one stop ; the lens cannot fall.
Press the locking lever and turn the ring one stop further ; the lens can now be removed without difficulty.
After having removed the lens, replace the protective caps to prevent any dust deposit on the reflex prism and on the lens.

Filters

The H 16 EBM Electric camera is equipped with a gelatine filter holder, which slides in front of the reflex prism.
Filter in working position : filter holder pushed in completely, lever in slot (a).
Filter out of working position : filter holder pulled out half way, lever pushed back into slot (b).
To remove the filter holder, push knob (c) down and pull the lever horizontally.

Note :

To prevent light infiltration, an empty filter holder should be left in the camera permanently.

A set of 4 gelatine filters is supplied with the camera.

The 1 A Skylight filter for colour films tones down excessive blue and improves colour reproduction (in the shade or overcast weather, for distant shots, when filming in snow or at high altitude). This filter requires no diaphragm correction.

The 85 Daylight filter for colour films is a conversion filter. It is used for filming in daylight with Kodachrome II Type A artificial light film. When setting the diaphragm, it must be taken into account that colour film for artificial light, used with the 85 Daylight filter, has the same sensitivity as a daylight colour film used without filter.

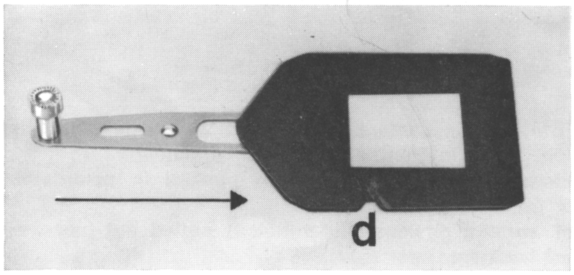
The Yellow 8 filter is used for increasing contrast in black-and-white films.

The Neutral Density filter 96 ND 0.60 is a photometric filter, used for both black-and-white and colour films. It in no way affects colour reproduction. As the ASA sensitivity is reduced four times, the diaphragm can be opened two stops. This filter is used :

when the lighting conditions and the film sensitivity require an aperture lower than the smallest stop on the lens ;
when it is desired to reduce the depth-of-field in order to achieve special effects (sharp foreground against blurred background).

Type	Open diaphragm	or divide ASA rating by
Kodak Wratten 1 A Skylight	—	—
85 Daylight	2/3 stop	1.6
8 Yellow	1 stop	2
96 ND 0.60	2 stops	4

The effect of a filter varies according to the type of film, its sensitivity and the lighting conditions. The diaphragm corrections given above should be considered as only approximate.



To insert or change a gelatine filter in the filter holder

Open the filter holder by pushing the lever (see arrow).
Cut the gelatine filter to the right size (simply cut into four the gelatine filter measuring 2 sq. inches).
Pull apart the two sides of the filter holder, slide the filter into place and fix the lever.
Important : The latter must be correctly positioned in relation to the slot of the filter holder (d).

Focusing adjustment

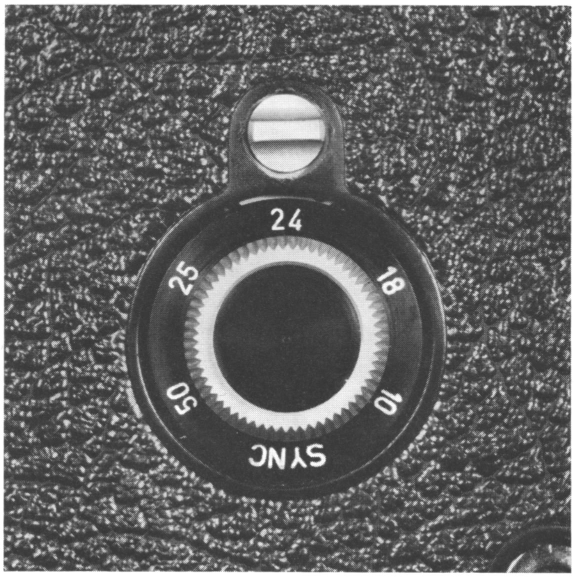
Placing a filter behind the lens slightly alters the lens focusing. However, the necessary correction is easily made thanks to the reflex viewfinder.

Important : Because of its distance from the film plane, the filter mount cannot be used as a mask holder for trick effects. The shape of the mask will not appear on the film and it will only darken the scene.

When using the Vario-Switar 100 POE :

The push-button next to the release switch of the power grip allows the diaphragm of the Vario-Switar 100 POE to be opened fully when not filming (see page 1). This permits focusing at maximum aperture and minimum depth of field. The cable connecting up the grip to the lens is available as an accessory.

Camera operation



Filming speeds

Your camera has five filming speeds, i.e : 10, 18, 24, 25 and 50 f.p.s.

Turn the selector until the figure corresponding to the desired speed is opposite the locking knob.

The 24 and 25 f.p.s. speeds, as well as the "SYNC" position, can be locked (locking knob rotated ¼ of a turn).

Note

The precision in setting the 24 and 25 f.p.s. speeds, as well as the stability in relation to the temperature, are sufficient to make a synchronous sound / image recording. This system is known as sync pulse (see sync pulse equipment page 12).

Exposure times, in fractions of a second

Filming speeds	Exposure times	
	real	"photometric"
10 f.p.s.	1/21	1/28
18 f.p.s.	1/33	1/44
24 f.p.s.	1/50	1/67
25 f.p.s.	1/53	1/70
50 f.p.s.	1/106	1/140

The exposure times called "photometric" are obtained by reducing the real camera exposure time by 25 %, to allow for the light deflected by the reflex prism. It is these photometric values which must be used to set your exposure meter.

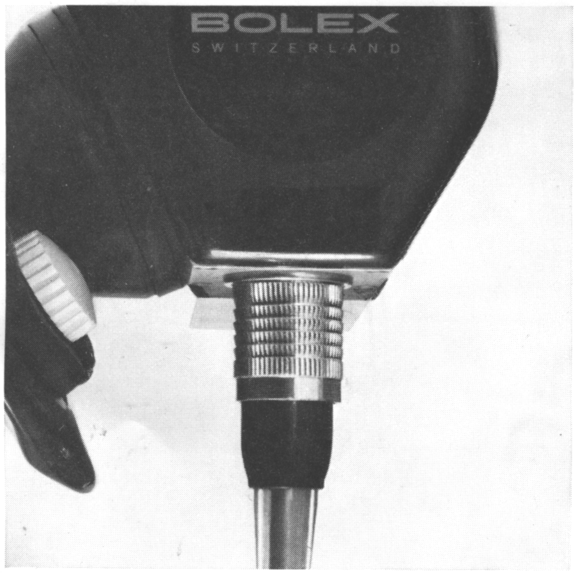
CRYSTAL CONTROL UNIT
24 f.p.s.
FOR BOLEX H16EBM ELECTRIC
made in Switzerland

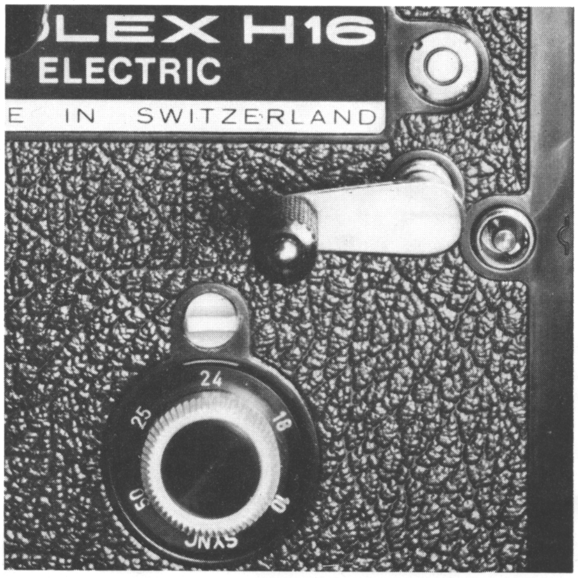
Crystal control equipment

This equipment, available as accessory, comprises :
1 crystal control unit 24 or 25 f.p.s. (speed to be specified when ordering).
1 20 inch connecting cable.
This equipment guarantees perfect stability of the mechanism, at the 24 or 25 f.p.s. speeds, throughout filming. Maximum admissible error on 400 ft of film (approx. 16,000 frames) : less than one frame.
Turn the speed selector to "SYNC" and lock it in this position.
Plug one end of the cable into either of the two sockets.
Plug the other end into the grip socket.
Tighten the locking rings of the plugs.

Note

The presence of the crystal control unit does not preclude the possibility of connecting the sync pulse accessory. Simply plug the latter into the free socket of the crystal control unit instead of the hand grip socket.
(See accessories, pages 16 and 17.)





Release

By pressing the hand grip release and letting it go immediately, the mechanism starts up.
By pressing the release once again, the mechanism stops.

To avoid the motor starting accidentally, it is advisable to lock the release when the camera is not in use.

Note
The shutter stops in any position. It is therefore necessary to cut each scene, to eliminate fogged images (1 to 3 frames maximum, at normal speed).

Remote control

A motor power and remote control cable is available as an accessory.

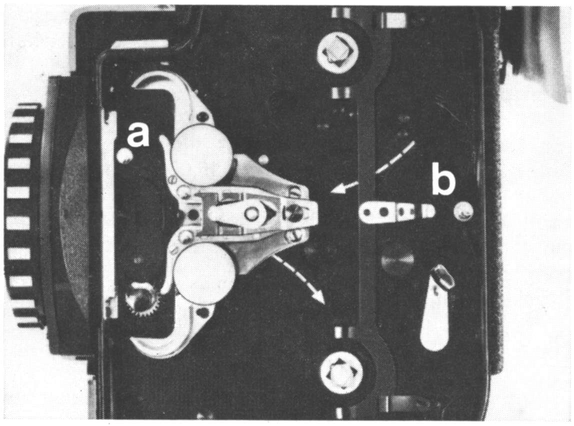
Hand cranking (without 400 ft magazine)

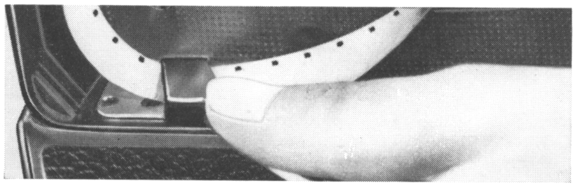
In case of need, the camera can be operated by hand, by means of a small crank handle.

Fit the crank handle on the coupling spindle 8 : 1 (8 frames per revolution), and turn it as follows :

forward motion : clockwise ;
reverse motion : anti-clockwise.

Loading and unloading the camera





Before loading your camera, insert the battery and set the speed.

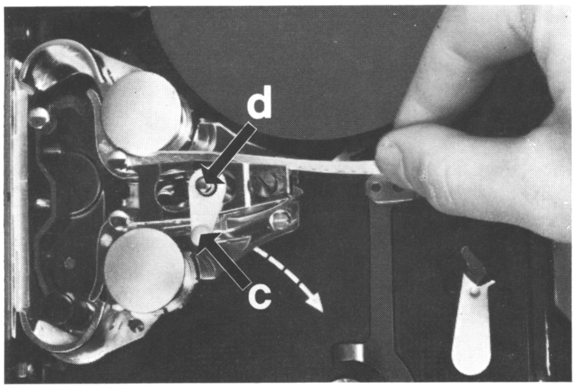
To remove the lid, turn the knob in the direction of the arrow.

Check that the pressure pad pin (a) is locked and that the pressure pad cannot open.

Remove the empty spool from its spindle by pressing ejector (b) and place the spool holding the film on the upper spool shaft (film should run in the direction indicated by the engraved arrow).

In the film gate, the dark, shiny side of the film (the base) should face towards the back of the camera and the light matte side (emulsion side) towards the lens.

Using the film-cutter, cut off the end of the film diagonally between two perforations, as shown in the illustration. Remember to remove the piece which has been cut off.



Close the loop formers by moving the control lever (c) parallel to the pressure pad.

Press the release while simultaneously pushing the end of the film against the sprocket. **The film is automatically threaded into the camera.**

Continue until 10 to 12 inches of film have passed through, then stop the mechanism.

Open the loop formers by pressing knob (d). (If you accidentally leave them closed, they will automatically open when the camera lid is replaced).

Insert the end of the film into the slot in the core of the take-up spool. Rotate until about three turns of film have been taken up and place the spool on the lower spool shaft.

Turn the take-up spool by hand, clockwise, to take up any slack film.

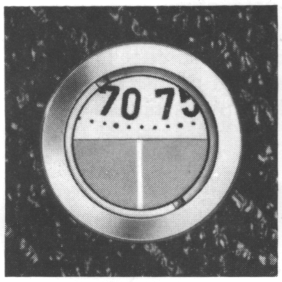
Final check

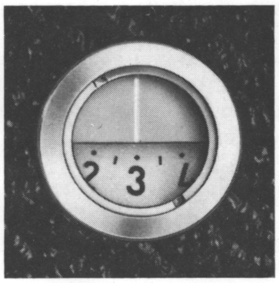
Press the release and run the camera for a few seconds to ensure that the film advances normally and that the loops at either end of the film gate are forming correctly.

Replace the lid and lock it. If you do not succeed at first, do not force the ring ! The lid, the spools or the pressure pad may be incorrectly positioned.

Note

Loading with 400 ft magazines is described in a special instructions manual.



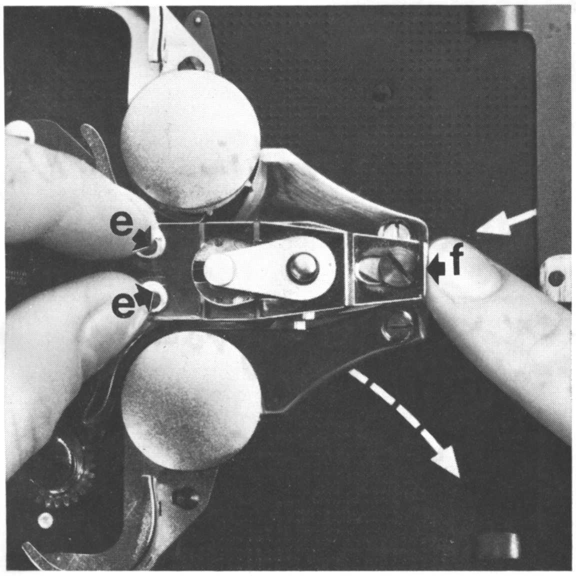


The footage counter

The footage counter shows the length of the film that has been exposed.
Once the camera is loaded, this counter reads **ft.** To roll up the leader, run the camera until the figure 0 arrives opposite the white line in the centre of the red mask. When the camera lid is removed for loading or unloading film, the counter automatically returns to **ft.**
The mask of the footage counter can be rotated half a turn to show a graduation in meters.

After the film is fully exposed

When the footage counter shows that the film is entirely exposed, run the camera for about 10 seconds to wind the end leader on the take-up spool.
A slight pressure on the ejector level (b) frees both spools.



Manual loading or unloading

(film loop, mainly with 400 ft magazine, see instructions manual of this accessory.)

Open the sprocket guides (e) and, to maintain them in this position, push slide (f).

Sync pulse equipment

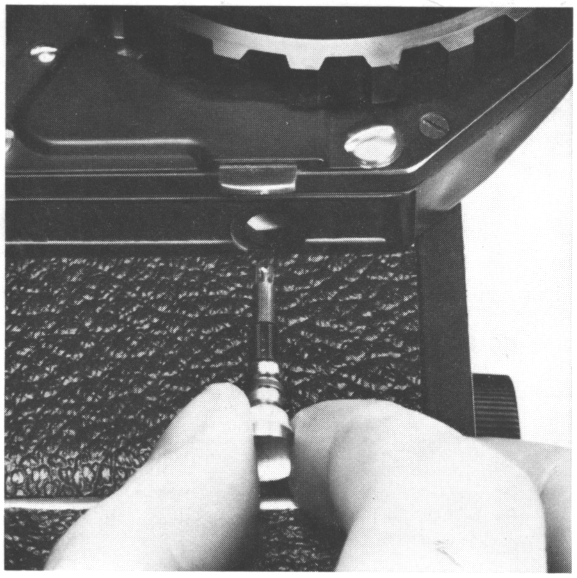
SYNC PULSE GENERATOR
50 Hz at 24 f./s.
FOR BOLEX H16EBM ELECTRIC
made in Switzerland

OPTOTECHNIK No 4 - 145 S
(See accessories on pages 16 and 17.)

This equipment, available as accessory, comprises :

1 sync pulse generator 25 f.p.s. / 50 Hz or 24 f.p.s. / 60 Hz (frequency to be specified when ordering)
1 clapper lamp mounting
1 clapper lamp
1 coiled connecting cable for connection with the tape recorder.

The sync pulse generator transforms the signal emitted by the camera generator into a 50 or 60 Hz normalised sinusoidal voltage and conveys a DC current to the beep generator of the tape recorder whilst the clapper lamp is on.



BOLEX
SWITZERLAND

To fit this equipment to your camera :

Remove the plug from the hole provided in the camera for the clapper lamp, by simply pulling it out.

Screw the clapper lamp to its mounting.

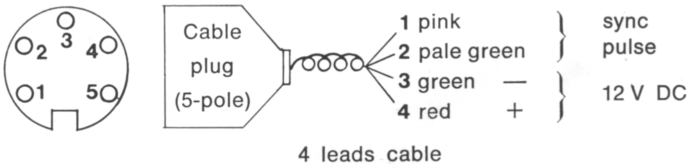
Slide the mounting into the hole provided in the camera for this purpose.

Connect camera and accessory by means of the universal cable supplied with the battery charger (7-pole plugs and sockets).

The connection between accessory and tape recorder is effected by means of the coiled cable. The free end of this cable must, however, previously be equipped with a plug suitable for the tape recorder employed.

On the Bolex side, the connections are as follows :

Sync pulse generator socket


2
3
4
1
5
Cable plug (5-pole)
1 pink
2 pale green
3 green —
4 red +
sync pulse
12 V DC

4 leads cable

← connections on Nagra III

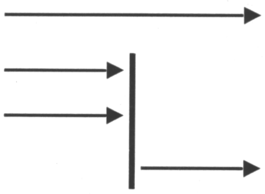
Pink 1 sync

Green > 2 & 3 ground
Green

Red 6 Slate

How the system works

As soon as you press the release :



a) Motor

b) Optical slating

c) 12 V DC for eventual “beep”

d) Sync pulse

a) The motor starts up.

b) The clapper lamp lights up and fogs the film for about 285 ms (i.e. approx. 7 frames at a speed of 25 f.p.s.).

c) A 12 V DC is tapped off terminals 3 and 4 of the 5-pole socket of the accessory (green and red leads of the coiled cable), while the clapper lamp is on.
This current powers the tape recorder oscillator, which records a “beep” on the sound track to mark the opening of each take.

d) As soon as the clapper lamp goes off, the sync pulse signal 1.2 V / 50 or 60 Hz appears at terminals 1 and 2 of the 5-pole socket of the accessory (pink and pale green leads of the coiled cable).

Clapper pilot light

This white light switches on each time the camera is started up, throughout the optical slating. If not, the clapper lamp is faulty and must be replaced.

The lamp in question is an OPTOTECHNIK No. 4-145 S, which is available at any specialised shop or from your Bolex distributor.

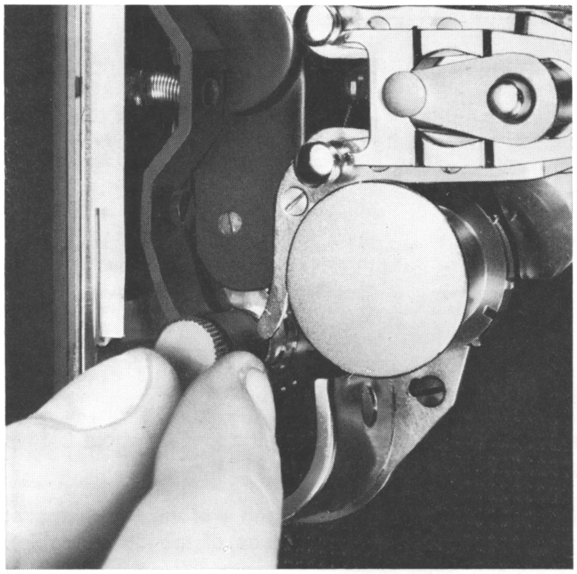
Note

Do not forget to remove the clapper lamp when not filming with synchronous sound ; this prevent unnecessary fogging.

Important

When using the sync pulse equipment, do not forget to turn the speed selector of your camera on the corresponding speed, i.e. 24 or 25 f.p.s.
The “SYNC” position can only be used with the crystal control equipment. (See page 9.)

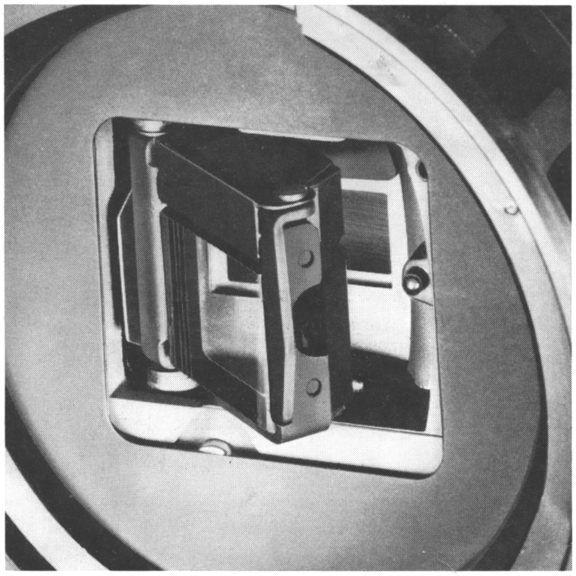
How to look after your camera



Camera

The interior of the camera, housing the film drive mechanism, must be kept spotless.
Gelatine deposits and dust sometimes accumulate in the gate and on the pressure pad when unexposed film is run through the camera and should be removed as follows :

Open the pressure pad by lifting its pin.
Unscrew the shaft and remove the pressure pad by pulling it towards you.
Gently clean the gate and pressure pad, paying special attention to the aperture, using a clean cloth wound round the end of a small stick. If the gelatine deposit is hard to remove, dampen the cloth and thoroughly dry the part after cleaning.
Replace the pressure pad.



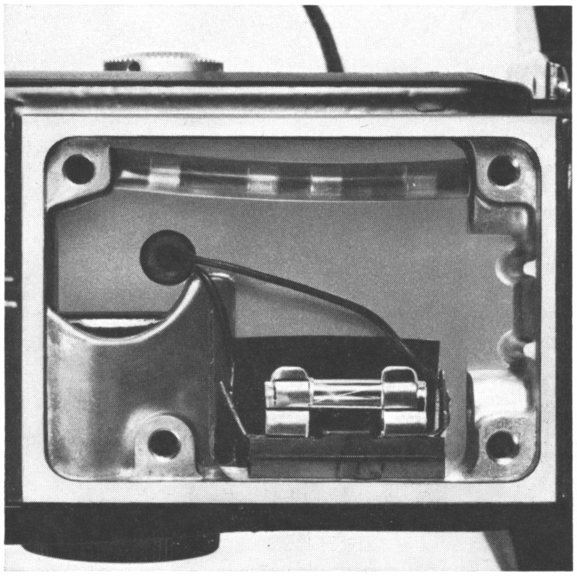
Reflex prism

Simply remove the lens to reach the reflex prism in front of the aperture. As the latter is mounted on hinges, it can be swung out for cleaning the back and the ground glass. Use a soft, dry brush or special paper for cleaning these parts. The prism can be cleaned even when the camera is loaded (preferably in the shade).

Important ! The reflex viewfinder must not be dismantled.

Lenses

Keep the outer surfaces of your lenses absolutely clean with the special soft tissue paper sold in photographic shops. Avoid rubbing the lens more than necessary as this could damage the anti-reflection coating.
Screw on the lens cap between takes. Special care should be taken to avoid dust or fingerprints (perspiration attacks glass).



Fuse replacement

In case of overload, bad connection or fault of any kind, the fuse of the electronic motor command may burn out. To replace :

Loosen the 4 fixing screws at the base of the camera.

Replace the faulty fuse by a reserve found in the plastic insulation tube.

Check that the camera works properly and replace the base.

Recharging the battery

To adapt the charger to the voltage of the mains, remove the four cover fixing screws, take off the cover and place the fuse in the correct position.

The battery can be charged in the power hand grip, by connecting up the universal cable to the charger and the 7-pole socket in the grip.

In order not to immobilize the camera, the battery can be placed in a charging container available as an accessory and connected to the charger by its own cable. It can also be charged in the battery container of the power pack connected to the charger by means of the universal cable.

The current for the charge is regulated electronically and there is no risk of damage to the battery if you forget to disconnect the charger. Full charging takes approximately 16 hours.

The charger pilot lamp only lights up when the battery is connected ; it blinks or goes off completely when the battery is fully charged (14.7 V).

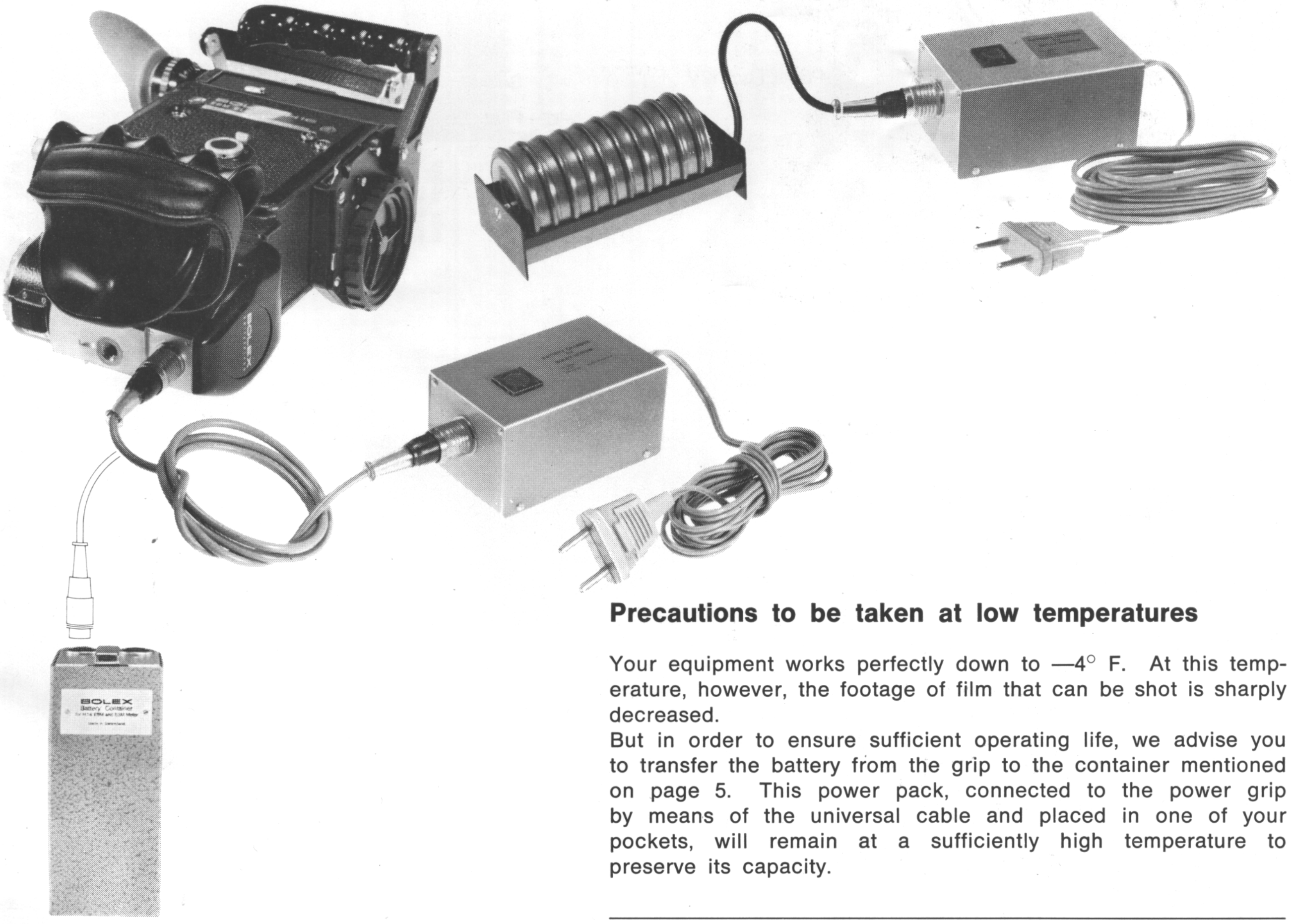
We recommend that the battery be recharged systematically before and after use.

If the battery is not used for a relatively long period, recharge it overnight, every 2 or 3 months.

When fully charged, a battery allows 2400 ft of filming, under normal working conditions (+70° F). The discharge limit is indicated by **continual** light from the red warning lamp, during filming.

Note

You can more or less check the battery load by the intensity and flash duration of the red warning light, when starting up the camera.

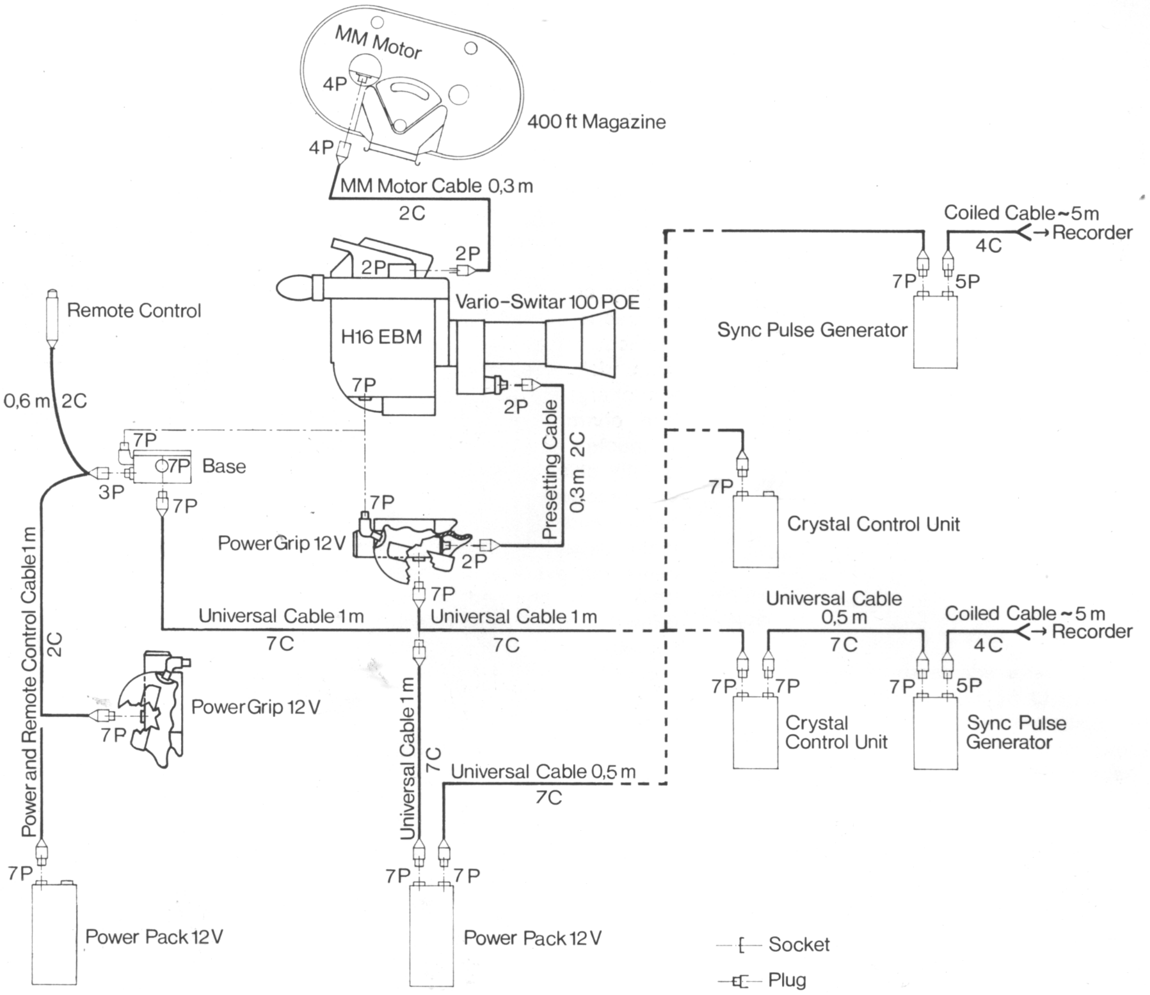


Precautions to be taken at low temperatures

Your equipment works perfectly down to —4° F. At this temperature, however, the footage of film that can be shot is sharply decreased.

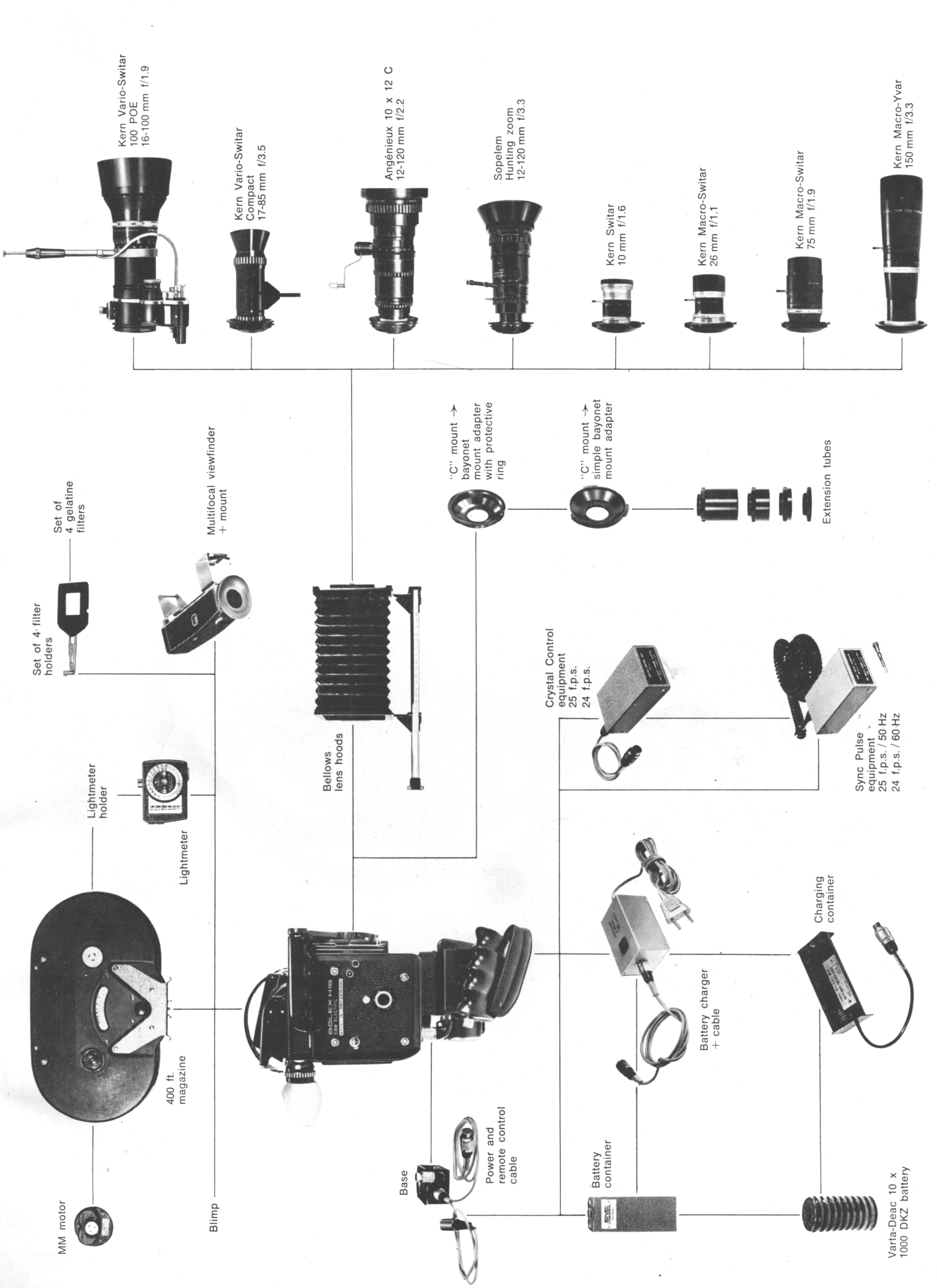
But in order to ensure sufficient operating life, we advise you to transfer the battery from the grip to the container mentioned on page 5. This power pack, connected to the power grip by means of the universal cable and placed in one of your pockets, will remain at a sufficiently high temperature to preserve its capacity.

Electrical diagram for accessories



MM Motor
4P
400 ft Magazine
4P
MM Motor Cable 0,3 m
2C
2P
2P
Vario-Switar 100 POE
H16 EBM
7P
2P
Presetting Cable
0,3 m 2C
Remote Control
0,6 m
2C
7P
7P
Base
3P
7P
7P
Power Grip 12 V
2P
7P
Universal Cable 1 m
7C
Universal Cable 1 m
7C
Power and Remote Control Cable 1 m
2C
Power Grip 12 V
7P
Universal Cable 1 m
7C
Universal Cable 0,5 m
7C
7P
Power Pack 12 V
7P
7P
Power Pack 12 V
Coiled Cable ~ 5 m
4C
→ Recorder
7P
5P
Sync Pulse Generator
7P
Crystal Control Unit
Universal Cable
0,5 m
7C
Coiled Cable ~ 5 m
4C
→ Recorder
7P
7P
7P
5P
Crystal
Control Unit
Sync Pulse
Generator
Socket
Plug

Lenses and principal accessories


Kern Vario-Switar 100 POE 16-100 mm f/1.9
Kern Vario-Switar Compact 17-85 mm f/3.5
Angénieux 10 x 12 C 12-120 mm f/2.2
Sopelem Hunting zoom 12-120 mm f/3.3
Kern Switar 10 mm f/1.6
Kern Macro-Switar 26 mm f/1.1
Kern Macro-Switar 75 mm f/1.9
Kern Macro-Yvar 150 mm f/3.3
"C" mount → bayonet mount adapter with protective ring
"C" mount → simple bayonet mount adapter
Extension tubes
Set of 4 gelatine filters
Multifocal viewfinder + mount
Set of 4 filter holders
Bellows lens hoods
Crystal Control equipment 25 f.p.s. 24 f.p.s.
Sync Pulse equipment 25 f.p.s. / 50 Hz 24 f.p.s. / 60 Hz
Lightmeter holder
Lightmeter
Charging container
Battery charger + cable
400 ft. magazine
Power and remote control cable
Base
Battery container
MM motor
Blimp
Varta-Deac 10 x 1000 DKZ battery

BOLEX

Hallmark of high quality

Yverdon, Switzerland
Bolex International S. A.

ME 2-001/72 Anglais Printed in Switzerland